the large relevant literature of the subject, dealing with ideas which richly deserve a more leisurely and scholarly development. It is to be hoped that Dr. Crile may in the near future find time for such a treatment.

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SPECIAL ARTICLES

A STERILE SIPHON TIP PROTECTOR

The tip of a siphon supplying sterile water, physiological saline solution, or diluent (0.4 per cent. tricresol in 0.85 per cent. NaCl solution) for various bacteriological procedures must be protected from contamination by dust, flies or other unsterile objects. This is accomplished fairly successfully with a bell-shaped cap such as can be made by cutting the bulb of a 50 c.c. volumetric pipette in the middle, leaving attached to each bell a tube 5–7 cm. long for union with the siphon tube, and drawing into this tube by means of a suitably sized rubber hose, another glass tube of such size that when the rubber hose is released its elasticity binds the two together. The covered end of the smaller tube is then adjusted even with that of the bell tube and the rubber hose snipped off, or in fact used to connect to the siphon of the bottle.

But such a device, while giving a fair protection during use, does not prevent the lodgment of upwardly floating particles of lint upon the drop of liquid at the point. It is this protection which the following addition accomplishes.

A test tube about 2.5 cm. $\times$ 15 cm. may usually be found to fit outside or inside the bell, as above prepared. The lip is removed and upon the tube is placed a thin rubber finger cot or a finger of a rubber glove from which the closed end has been cut so that the portion which is left may be rolled upon the bell from the tube thus holding the two together and preventing lodgment of contaminating dust when the siphon is out of use. During use the protector may itself be protected by fastening it to another test tube. However, this is scarcely necessary, and I have ordinarily taken no particular precautions to sterilize or prevent contamination of the protector since it touches the bell only and not the siphon tip itself. Yet in certain permissible cases a few drops of formaldehyde in the protector have added a further element of safety.

One of the special purposes to which I have successfully adapted such a device is the frequent examination of bacterial broth cultures being studied for progressive metabolic and morphological changes. For example, some of the fluid from a liquid preparation of *B. diphtheriæ* was withdrawn every four days for a period of three weeks, microscopic and cultural examinations made at each withdrawal confirming the continued purity of the contained culture.

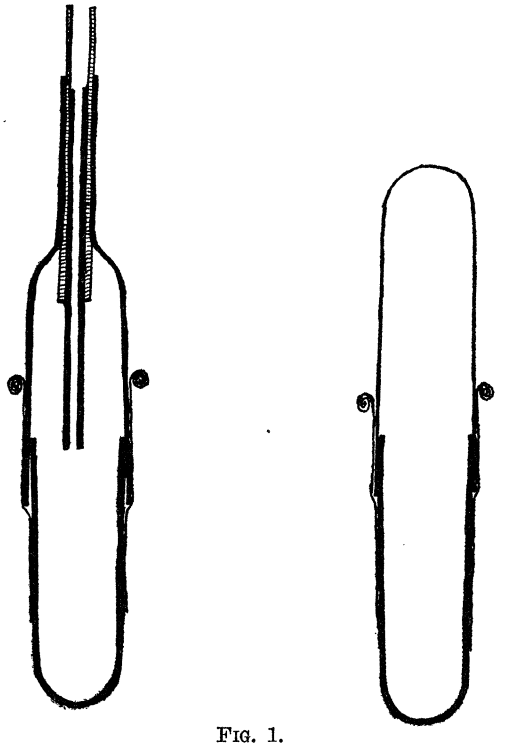

Fig. 1.

Fig. 1 shows a diagrammatic cross section of the apparatus set up (*A*) and taken apart (*B*), for use of the siphon.

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